

WHAT IS CLAIMED IS:

1. A method of manufacturing a rod integrator including a quadrangular prismatic light-guiding member with rectangular cross-sectional shape, said light guiding member having a first end surface, a second end surface on the opposite side of said first end surface, and a first side surface, a second side surface, a third side surface and a forth side surface provided between said first and second end surfaces, said light-guiding member guiding the beam from said first end surface to said second end surface while causing the beam to be reflected by said side surfaces such that the beam is outputted from said second end surface; and a tube-shape body having a first end portion tightly surrounding at an end of said light-guiding member on the side of said second end surface, said tube-shape body having a second open end portion from which the beam is outputted while causing the beam from said light-guiding member to be reflected by inner surfaces of said tube-shape body, said tube-shape body being arranged, in a pinwheel shape, a first member, a second member, a third member and a fourth member, each of which is in plate shape and has a mirror surface on one side; said method comprising the steps of:

disposing one edge of said first member flush with said first side surface of said light-guiding member, bringing the second side surface of said light-guiding member adjacent to said first side surface into contact with the

mirror surface of said first member, whereby protruding the other edge of said first member from said third side surface of said light-guiding member opposing said first side surface;

5           bringing one edge of said second member into contact with the inner surface of said first member protruding from said light-guiding member, and bringing the mirror surface of said second member into contact with said third side surface opposing said first side surface, whereby protruding  
10           the other edge of said second member from the forth side surface opposing said second side surface of said light-guiding member;

          bringing one edge of said third member into contact with the inner surface of said second member protruding from  
15           said light-guiding member, and bringing the mirror surface of said third member into contact with the fourth side surface opposing said second side surface of said light-guiding member;

          bringing one edge of said fourth member into contact  
20           with the inner surface of said third member protruding from said light-guiding member, and bringing the mirror surface of said fourth member into contact with said first side surface of said light-guiding member; and,

          fixing said first member, said second member, said  
25           third member and said fourth member on said light-guiding member, respectively.

2. The method of manufacturing a rod integrator according to Claim 1, wherein in said fixing step, said first member, said second member, said third member, and said fourth member are fixed on said light-guiding member using an adhesive.

5 3. The method of manufacturing a rod integrator according to Claim 2, wherein said adhesive is ultraviolet-curing type adhesive hardening by irradiation of ultraviolet light.

4. The method of manufacturing a rod integrator according to Claim 1, wherein said light-guiding member is formed from glass.

5 The method of manufacturing a rod integrator according to Claim 1, wherein said first member, said second member, said third member and said fourth member are formed from glass.

6. A rod integrator, comprising:

15 a quadrangular prismatic light-guiding member with rectangular cross-sectional shape, said light guiding member having a first end surface, a second end surface on the opposite side of said first end surface, and a first side surface, a second side surface, a third side surface and a fourth side surface provided between said first and  
20 second end surfaces, said light-guiding member guiding the beam from said first end surface to said second end surface while causing the beam to be reflected by said side surfaces such that the beam is outputted from said second end surface,  
25 and

a tube-shape body having a first end portion tightly

surrounding at an end portion of said light-guiding member on the side of said second end surface, said tube-shape body having a second open end portion from which the beam is outputted while causing the beam from said light-guiding member to be reflected by inner surfaces of said tube-shape body; and wherein

said tube-shape body being arranged, in a pinwheel shape, a first member, a second member, a third member and a fourth member, each of which is in plate shape and has a mirror surface on one side, such that said tube-shape body having the mirror surfaces facing inside thereof.

7. The rod integrator according to Claim 6, wherein said light-guiding member is formed from glass.

8. The rod integrator according to Claim 6, wherein said first member, said second member, said third member and said fourth member are formed from glass.